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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/581,689 | 06/06/2006 | Hans-Dieter Blitz | 287324US0PCT | 3932 |
| 22850 | 7590 | 03/11/2009 | | |
| OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | EXAMINER CHEUNG, WILLIAM K | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1796 | |
| | | | NOTIFICATION DATE | DELIVERY MODE |
| | | | 03/11/2009 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/581,689 | Applicant(s) BLITZ ET AL. | |
| | Examiner WILLIAM K. CHEUNG | Art Unit 1796 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>060606</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The examiner acknowledges the preliminary amendment filed June 6, 2006. New claims 17-20 have been added. Claims 1-20 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

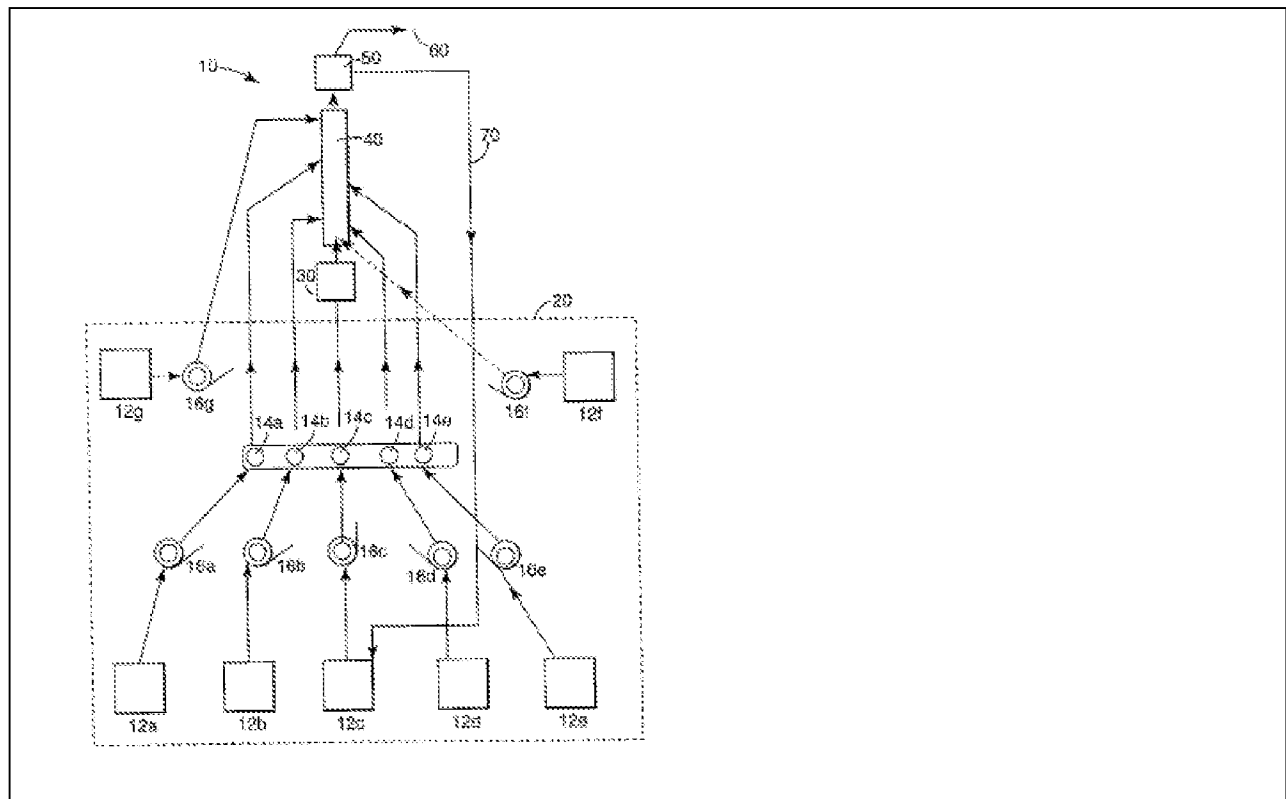
3. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Nelson et al. (US 2003/0035756).

Claim 1 (Currently Amended): ~~Process A~~ process for polymer formation by the continuous free-radical homogeneous solution polymerization, or melt polymerization, of at least one (meth)acrylate monomer mixtures mixture, characterized in that comprising feeding the at least one monomer mixture is fed at into the bottom of a tubular reactor, heating the at least one monomer mixture is heated to reaction temperature in the presence of an initiator or initiator mixture to form a monomer-initiator mixture, and stirring the monomer-initiator mixture is stirred at from 5 to 50 rpm by a stirrer, forming a polymer, and discharging the ~~melted~~ polymer is discharged at the top of the tubular reactor.

Claim 11 (Currently Amended): ~~Polymers A~~ polymer prepared according to by the process of Claim 1, wherein the process is a melt polymerization process, wherein characterized in that melt polymers have the polymer has a glass transition temperature \leq 70°C.

Claim 12 (Currently Amended): ~~A tubular~~ Tubular reactor, arranged vertically, comprising ~~with~~ starting material introduction in the lower third ~~of the reactor~~, and comprising product take-off in the upper third ~~of the reactor~~, characterized in that ~~wherein the reactor comprises reactor zones, wherein the reactor zones can be heated separately, and wherein a centrally arranged stirrer unit operates at rotation rates of from 5 to 50 rpm.~~

Nelson et al. (abstract; figure) disclose a system wherein a plug flow reactor is used to make combinatorial libraries of materials. The plug flow reactors include stirred tube reactors, extruders, and static mixers.



Nelson et al. (page 4, 0051-0052) teach that the plug flow reactors are for running various type of polymerization process that include an initiator, monomers and optionally a solvent. The examiner has a reasonable basis to believe that the disclosed

Art Unit: 1796

solvent is optional in view of the recitation "if embodiments that utilize a solvent" in Nelson et al. (0051). Therefore, the polymerization teachings of Nelson et al. include both solution and melt polymerization processes. Also according to the figure, item 40 appears to be a tube reactor, which meets the tubular reactor feature being claimed.

Regarding the claimed "stirring the monomer-initiator mixture at from 5 to 50 rpm", Nelson et al. (page 6-7, 0082) clearly teach mixing at 50 rpm and 10 rpm in an extruder.

Regarding the claimed "discharging the polymer at the top of the tubular reactor, Nelson et al. (figure, item 40) clearly indicates that the polymer is discharged at the top of the tubular reactor. Monomers and initiators are fed at the lower portion (bottom) of the reactor (figure, item 40). Nelson et al. (figure, item 30) clearly teach the use of an heat exchanger, where the monomers can be preheated.

Regarding claim 7, Nelson et al. (figure, item 50) clearly teach the use of devolatilizer downstream of the disclosed apparatus.

Regarding claim 9, Nelson et al. (page 8, 0097) clearly teach that the addition of stabilizers.

Regarding claim 12, the extruder teachings of Nelson et al. (page 1, 0007) clearly inherently possess the reactor zones as claimed.

Regarding claim 14 which claims that the claimed process is for forming a viscosity improver, the examiner has a reasonable basis that the polymer products as taught in Nelson et al. inherently meet the feature as claimed since claim 14 fail to specify any requirement for the claimed viscosity improver. Applicants must recognize

Art Unit: 1796

that polymers are high molecular weight products that can easily alter the viscosity of a polymeric resin composition.

Regarding the “setting-point improver” feature of claim 15, the “lacquer” feature of claim 16, and the “hot-melt” feature of claim 17, the examiner has a reasonable basis that the polymer products as taught in Nelson et al. inherently meet the feature as claimed since claims 15, 16, and 17 fail to specify any requirement for the claimed features.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM K. CHEUNG whose telephone number is (571)272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William K Cheung/
Primary Examiner, Art Unit 1796

William K. Cheung, Ph. D.
Primary Examiner
March 3, 2009